Spandan Anaokar

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Education

Carnegie Mellon University — **Pittsburgh, PA**
Master's in Machine Learning — *December 2026*
Selected Coursework: Advanced Intro to ML, Intermediate Statistics, Deep Reinforcement Learning

Indian Institute of Technology Bombay — **Mumbai, India**
Bachelor of Technology in Engineering Physics, Dual Minors in CS and AI/DS — *May 2025*
GPA: 9.4/10.0 (Dept Rank 3)
Awards: Undergraduate Research Award (2024), Mrs. Charusheela Dange Award (2025)
Selected Coursework: OS, DSA, NLP and Speech, Optimization for ML, ML in Remote Sensing, Digital Image Processing, Statistical ML, Prob and Stochastic Processes, Markov Chains, Non-Linear Dynamics, Statistical Physics,

Skills

Programming: Python, C, C++, Bash
Frameworks: PyTorch, TensorFlow, Scikit-learn, LangChain, OpenCV, Numpy, Pandas, HuggingFace.
Tools: Git, LaTeX, Docker, Jupyter, VSCode.
Languages: English, Hindi, Marathi.

Professional Experience

NeuralThread.AI — Mumbai, India
CTO & Co-Founder — *Aug 2023 - Mar 2025*

- Led multimodal GenAI pipeline with Stable Diffusion and ESRGAN, cutting apparel design effort by over 80%.
- Directed AI apparel visualization with StyleGAN facilitating scalable mock-ups with 70–90% efficiency gains.

Microsoft IDC — Hyderabad, India
Data Science Intern — *May 2024 - Jul 2024*

- Prototyped a ReAct-based anomaly-detection pipeline for Windows telemetry utilizing 30 min on a 64 GB CPU and projected to 1 min on a 12–16 GB laptop GPU, enabling 40% of common Tier-1 diagnostics to be automated.
- Designed a privacy-preserving, on-device inference pipeline with Llama3.1-8B, with the potential to eliminate log uploads, cut cloud diagnostic calls by up to 90%, and save hundreds—1,200+ support-hours per 1,000 tickets.

Research Projects

Detecting & Mitigating Hallucination in Legal LLMs — *Jul 2024 - May 2025*
Prof. Pushpak Bhattacharyya, CSE Department, IIT Bombay — Mumbai, India

- Developed HalluDetect, an LLM-based hallucination detection framework with span-level identification and justifications, improving F1 by 25.4% over baselines and catalyzing scalable evaluation of multi-turn conversations.
- Engineered and assessed 5 RAG chatbot architectures demonstrating a novel workflow with reduced hallucination frequency of 0.416 per response, maintaining token-level accuracy above 96.13%.
- Accepted at **EMNLP 2025 Industry Track**: Anaokar, S. et al. "HalluDetect: Detecting, Mitigating, and Benchmarking Hallucinations in Conversational Systems."

Noise Injection in Sequential Models — *Jan 2024 - May 2024*
Prof. Ganesh Ramakrishnan, CSE Department, IIT Bombay — Mumbai, India

- Executed stochastic noise-injection experiments in BiLSTM and Transformer models, applying pre- and post-gradient perturbations to achieve faster convergence and improved generalization across NLP tasks

Recommendation System for Smart Homes — *Aug 2023 - Apr 2024*
Prof. Pushpak Bhattacharyya, CSE Department, IIT Bombay — Mumbai, India

- Engineered a Transformer + TCN model with RBF and Time2Vec embeddings, to predict next-action timing in high-variance temporal sequences in smart homes, introducing novel representations for sequence forecasting.
- Evaluated model against 9 baselines on synthesized (N=11.6k sequences) and public datasets, reframing time prediction as classification and delivering a 6% performance gain with robust generalization across datasets.
- Submitted research paper to AAAI 2026: Ganatra S.*, Anaokar S.*, Bhattacharyya P. "Timing Matters: Enhancing User Experience through Temporal Prediction in Smart Homes." (*Equal Contribution).